Claims

1. A process of producing a superabsorbent polysaccharide derivative, comprising the steps of:

(a) crosslinking at least one polysaccharide containing acidic groups with a crosslinking agent to produce a gel;

(b) ensuring that the pH of the polysaccharide is between 3.5 and 5.5;

(c) comminuting the acidified polysaccharide gel; and

(d) drying the comminuted polysaccharide at elevated temperature.

2. A process according to claim 1, in which the polysaccharide containing acidic groups comprises carboxymethyl-cellulose, further comprising the step of contacting the crosslinked polysaccharide with an organic solvent which is at least partly miscible with water, between step (b) and step (c).

3. A process according to claim 2, in which said organic solvent is a lower alcohol, a water-miscible ketone or a water-miscible ether, especially methanol or ethanol.

4. A process according to claim 1, in which the polysaccharide containing acidic groups is a carboxymethyl polysaccharide further containing carboxyl groups resulting from oxidation of saccharidic hydroxymethyl or hydroxymethylene groups, or phosphonic or sulphonic acid groups.

5. A process according to claim 1, in which the polysaccharide containing acidic groups comprises a 6-carboxy polysaccharide, especially 6-carboxy starch, optionally mixed with a carboxyalkylated polysaccharide.

6. A process according to any one of claims 1-5, in which the polysaccharide containing acidic groups contains 0.3-3.0 carboxyl groups per monosaccharide unit.

7. A process according to any one of claims 1-6, in which said cross-linking agent is a bis-epoxy compound, and the polysaccharide is acidified before step (a).

8. A process according to any one of claims 1-7, in which said crosslinking step is performed at a temperature of at least 100°C, preferably between 120 and 180 °C and/or at a concentration of the polysaccharide of between 25 and 75% by weight.

9. A process according to claim 8, in which a plasticiser such as glycerol is used during said crosslinking step.

10. A process according to any one of the preceding claims, in which said drying step (d) is performed using a fluidised bed, at a temperature of between 50 and 130°C.

11. A process according to any one of the preceding claims, in which said drying step (d) is followed by a heat treatment at a temperature of between 80 and 150°C.

12. A process according to any one of the preceding claims, in which an additional surface-crosslinking step is performed after step (c) or after step (d).

13. Superabsorbent polysaccharide derivative obtainable by the process according to any one of the preceding claims, and having a pH below 5.

14. Superabsorbent polysaccharide according to claim 13, also comprising an acid selected from organic di- and polycarboxylic acids, hydroxycarboxylic acids and benzoic acids.

15. Absorbent article comprising a superabsorbent polysaccharide according to claim 13 or 14.